

## Activity Survey 2019

### Patient and Transplant Numbers

Teams : 700	Participating countries: 50		
	Allogeneic	Autologous	Total
<b>1<sup>st</sup> allo / 1<sup>st</sup> auto HCT</b>	<b>18 563</b>	<b>25 018</b>	<b>43 581</b>
Re/Additional transplants	1 235	3 696	4 931
<b>Total HCT</b>	<b>19 798</b>	<b>28 714</b>	<b>48 512</b>
<b>Myeloablative HCT</b>	<b>62%</b>		

### Main Indication 1<sup>st</sup> HCT

	Allogeneic	Autologous	Total
Myeloid malignancies	10 518	246	10 764
Lymphoid malignancies	5 255	22 640	27 895
Solid tumours	29	1 547	1 576
Bone marrow failure	1 022	2	1 024
Other non-malignant disorders	1 582	567	2 149
Other	157	16	173

### Myeloid malignancies

	Allogeneic	Autologous	Total
AML 1 <sup>st</sup> . CR	4 078	193	4 271
not 1 <sup>st</sup> . CR	1 868	41	1 909
tAML/sAML	1 061	3	1 064
CML 1 <sup>st</sup> . cP	173	0	173
not 1 <sup>st</sup> . cP	222	0	222
MDS or MDS/MPN, MPN	3 116	9	3 125

### Lymphoid malignancies

	Allogeneic	Autologous	Total
ALL 1 <sup>st</sup> . CR	1 866	62	1 928
not 1 <sup>st</sup> . CR	1 178	4	1 182
CLL	171	11	182
Plasma cell disorders	296	13 694	13 990
Hodgkin lymphoma	434	2 185	2 619
Non-Hodgkin lymphoma	1 310	6 684	7 994

### Solid tumours

	Allogeneic	Autologous	Total
Neuroblastoma	17	499	516
Soft tissue sarcoma/Ewing	5	247	252
Germ cell tumour	1	433	434
Other solid tumour	6	368	374

### Non malignant disorders

	Allogeneic	Autologous	Total
Bone marrow failure - SAA	749	2	751
Bone marrow failure - other	273	0	273
Thalassemia	342	1	343
Sickle cell disease	324	0	324
Primary immune deficiency	719	12	731
Inherited disorder of metabolism	175	15	190
Auto immune disease	22	539	561
Others	157	16	173

### Paediatric patients

Family			Unrelated			Autologous							
HLA-id/twin			Haplo-id			Other relative							
BM	PB	CB	BM	PB	CB	BM	PB	CB					
963	343	30	219	516	82	73	2	922	723	117	22	1176	1
2228			1 762			1199							

### Main trends in 2019

- Number of HCT increase by 2.2% (0.9% allo and 3.1% auto)
- Continued increase in haploidentical (11%) and unrelated (1.2%) HSCT
- Cellular therapies: CAR-T therapies increase by 650% since 2017 from 151 to 1134
- 1990-2019: 30 years activity survey: developments
- 1st survey in 1990 reported 4,234 HCT from 143 centers in 20 countries, this increased to 48,512 HCT in 700 centers in 51 countries.
- More than 800,000 HCT in 715,000 patients reported over the 20 year period.
- Success of unrelated donor and haploidentical HCT
- Increase followed by decrease in the number of cord blood transplants
- Increased use of reduced intensity HCT in older patients
- Massive expansion of HCT technology and recent phenomenal rise in cellular therapy.

## HCT in Europe 2019

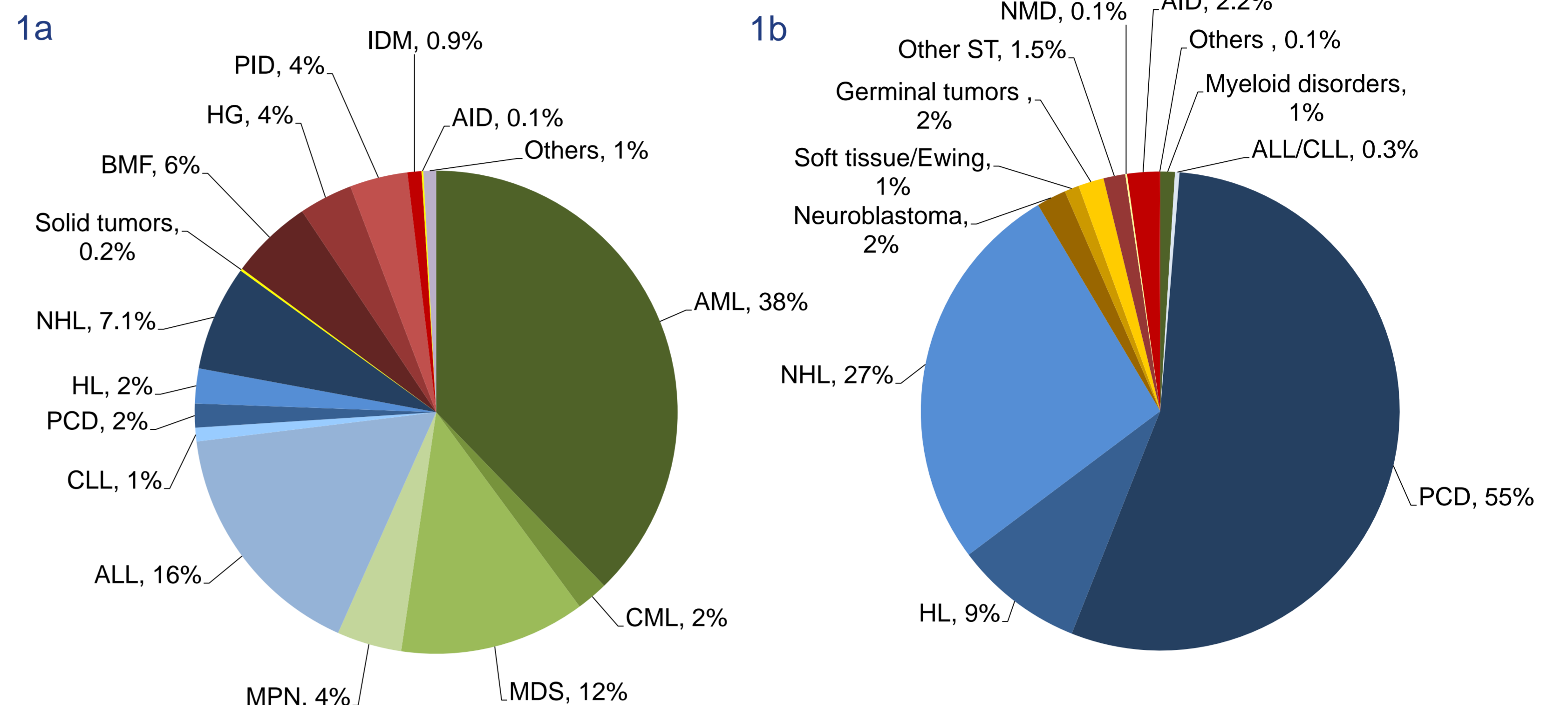


Figure 1: Relative proportion of disease indications in Europe 2019: allogeneic (1a) and autologous (1b) HCT.

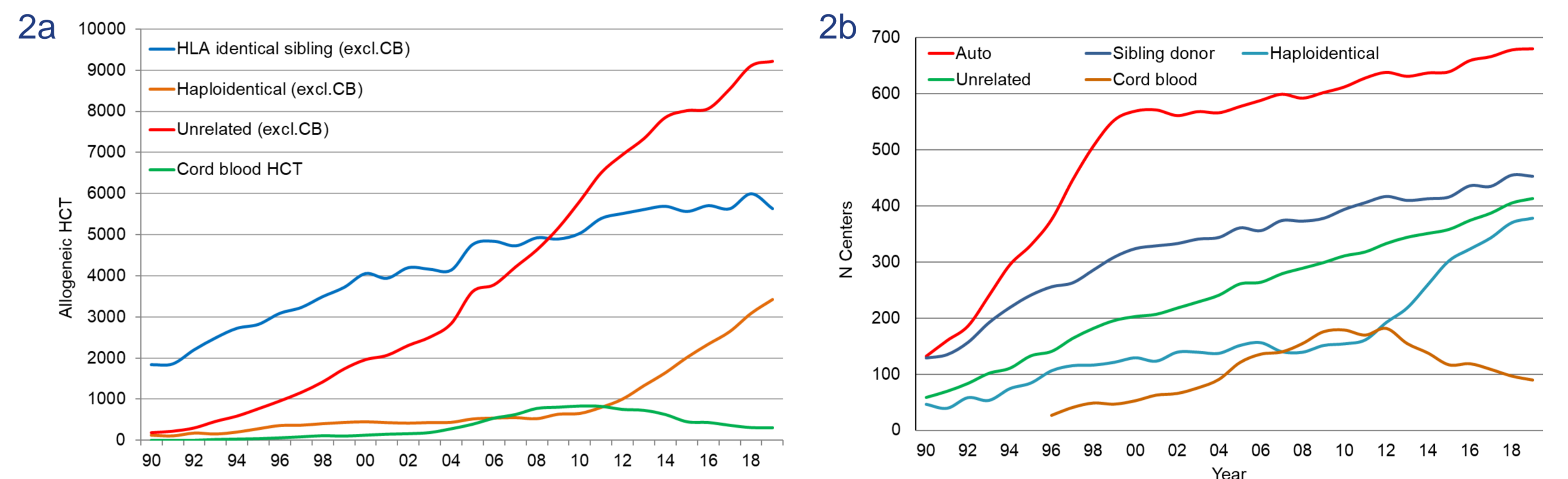


Figure 2: Distribution of donor type among allogeneic HCT recipients (2a). Change in choice of donor type by center from 1990 to 2019 (2b).

## CAR-T cellular therapies in Europe 2019

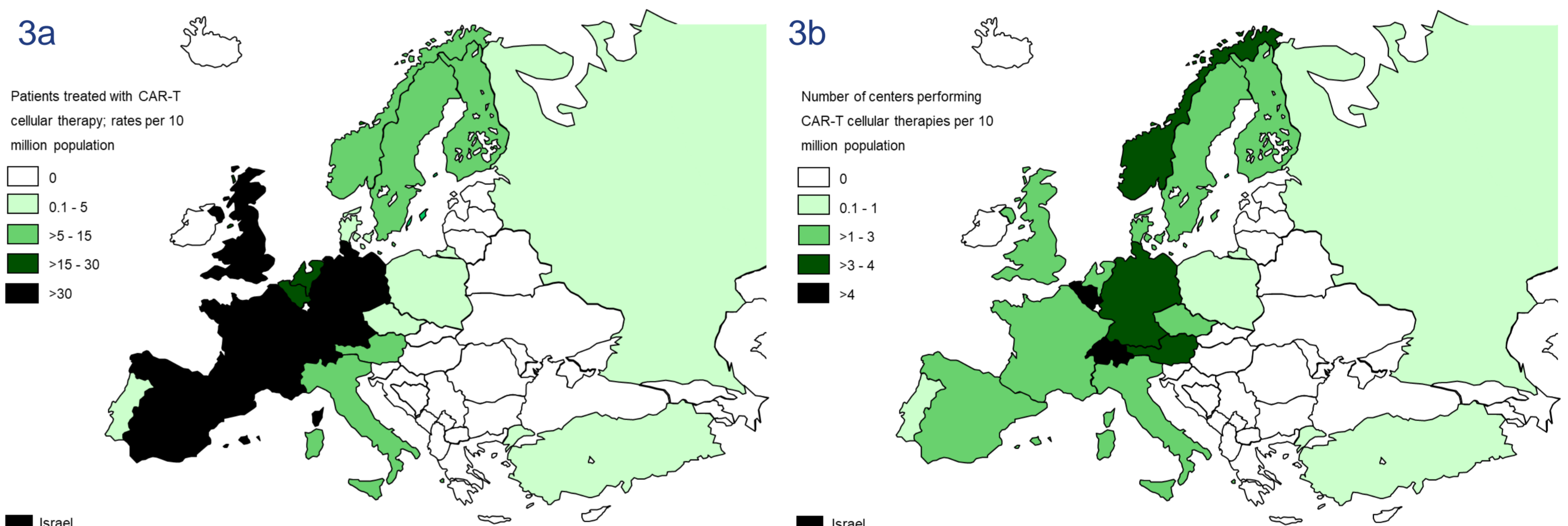


Figure 3: Patients treated with CAR-T cellular therapy; rates per 10 mil. pop. (3a). Number of centers performing CAR-T cellular therapies per 10 mil. pop. (3b).

## Non HCT Cellular therapies using manipulated or selected cells in 2019

Number of patients	CAR T cells		select/exp T cells or CIK		Reg T cells (TREGS)		Genetic mod. T cells		Natural killer cells		Dendritic cells		MSC		Exp. or genetically modified CD34+ cells		Other	
	Allo	Auto	Allo	Auto	Allo	Auto	Allo	Auto	Allo	Auto	Allo	Auto	Allo	Auto	Allo	Auto		
GvHD			1		48				1				296				9	1
Graft enhancement			22						1				20		8	1	173	27
Auto immune disease											3	24	8		4			3
Genetic disease													1			14	1	2
Infection			203	9	1		5	1					4					37
Malignancy - ALL	20	232	4				4		2		6	4						2
Malignancy - HL/NHL		826	3						1									4
Malignancy - other	1	55	14	21	13		2	1	8		25	1	1		4	20	11	
<b>Total</b>	<b>21</b>	<b>1113</b>	<b>247</b>	<b>30</b>	<b>62</b>	<b>0</b>	<b>11</b>	<b>2</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>350</b>	<b>9</b>	<b>8</b>	<b>23</b>	<b>242</b>	<b>49</b>

Patients with unmanipulated DLI in 2019: N= 3 028: 716 for graft enhancement/failure; 431 for residual disease; 1 461 for relapse; 420 for per protocol